

## CLAIMS

- 1 1. A transport demultiplexor, the transport demultiplexor selectively receiving a  
2 transport stream, the transport demultiplexor delivering transport stream data to a  
3 data unloader, and wherein the transport demultiplexor includes a string  
4 comparator, the string comparator comparing transport stream data from the data  
5 unloader to at least a portion of the compare value filter and storing a destination  
6 address of the transport stream data when the compared transport stream data  
7 matches the at least a portion of the compare value filter.
- 1 2. The transport demultiplexor of claim 1 wherein the string comparator includes a  
2 compare register, wherein the compare register stores the at least one compare  
3 value filter
- 1 3. The transport demultiplexor of claim 2 wherein the compare register receives the  
2 compare value filter from a system processor.
- 1 4. The transport demultiplexor of claim 2 wherein the compare register stores a  
2 plurality of compare value filters, with each of the compare value filters compared  
3 to transport stream data corresponding to a different memory queue.

- 1 5. The transport demultiplexor of claim 1 wherein the string comparator includes a  
2 masking register and wherein the masking register includes at least one masking  
3 filter, wherein the at least one masking filter determines the at least one portion of  
4 the compare value filter that is compared to the transport stream data.
- 1 6. The transport demultiplexor of claim 5 wherein the masking register receives the  
2 at least one masking filter from a system processor.
- 1 7. The transport demultiplexor of claim 1 wherein the string comparator includes an  
2 address register and wherein the address register stores the destination address of  
3 matching transport stream data.
- 1 8. The transport demultiplexor of claim 7 wherein the address register stores a  
2 plurality of destination addresses in a first-in-first-out buffer.
- 1 9. The transport demultiplexor of claim 1 wherein the transport stream comprises an  
2 MPEG-2 transport stream.
- 1 10. The transport demultiplexor of claim 1 wherein the string comparator notifies a  
2 system processor when the compared transport stream data matches the at least a  
3 portion of the compare value filter.

- 1 11. A transport demultiplexor for receiving a transport stream, the transport  
2 demultiplexor comprising:  
3 a) front end logic;  
4 b) a packet buffer;  
5 c) a video unloader;  
6 d) a data unloader;  
7 e) an audio unloader, and wherein said front end logic receives the transport  
8 stream and delivers the transport stream to the packet buffer, and wherein said  
9 packet buffer delivers selected transport stream video data to the video unloader  
10 and selected transport audio data to the audio unloader, and wherein the said  
11 packet buffer delivers other transport stream data to the data unloader for  
12 delivering to system memory; and  
13 f) a string comparator, the string comparator including:  
14 i) a compare register, the compare register storing at least one compare  
15 value filter;  
16 ii) a masking register, the masking register designating at least a portion of  
17 the compare value filter;  
18 iii) an address register; and  
19 wherein the string comparator compares the other transport stream data from the  
20 data unloader to the designated at least a portion of the compare value filter and  
21 stores a destination address of the other transport stream data at the address  
22 register when the compared other transport stream data matches the designated at  
23 least a portion of the compare value filter.
- 1 12. The transport demultiplexor of claim 11 wherein the compare register receives the  
2 compare value filter from a system processor.

- 1 13. The transport demultiplexor of claim 11 wherein the compare register stores a  
2 plurality of compare value filters, with each of the compare value filters compared  
3 to system data corresponding to a different memory queue.
- 1 14. The transport demultiplexor of claim 11 wherein the masking register receives the  
2 at least one masking filter from a system processor.
- 1 15. The transport demultiplexor of claim 11 wherein the address register stores a  
2 plurality of destination addresses in a first-in-first-out buffer.
- 1 16. The transport demultiplexor of claim 11 wherein the front end logic includes a  
2 bypassable packet parser, the bypassable packet parser receiving a first and  
3 second type of transport stream from the bypassable synchronizer, the bypassable  
4 packet parser filtering the first type transport stream data before passing to the  
5 packet buffer, the bypassable packet parser delivering second type transport  
6 stream data to the packet buffer without filtering.
- 1 17. The transport demultiplexor of claim 11 wherein the data unloader includes a  
2 queue control, said queue control controlling storage location of said first  
3 transport stream system data in system memory.
- 1 18. The transport demultiplexor of claim 11 wherein the transport stream comprises  
2 an MPEG-2 transport stream.

1     19.     The transport demultiplexor of claim 11 wherein the string comparator notifies a  
2             system processor when the compared other transport stream data matches the  
3             designated at least a portion of the compare value filter.

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- 16 c) a video unloader, the video unloader receiving selected MPEG-2 video packets  
17 from the packet buffer;
- 18 d) an audio unloader, the audio unloader receiving selected MPEG-2 audio  
19 packets from the packet buffer;
- 20 e) data unloader, the data receiving MPEG-2 system data packets and other  
21 transport stream data packets, the data unloader delivering the MPEG-2 system  
22 data packets and other transport stream data packets to system memory as system  
23 memory data for processing; and
- 24 f) a string comparator, the string comparator including:
- 25 i) a compare register, the compare register storing at least one compare  
26 value filter;
- 27 ii) a masking register, the masking register designating at least a portion of  
28 the compare value filter;
- 29 iii) an address register; and
- 30 wherein the string comparator compares system memory data from the data  
31 unloader to the designated at least a portion of the compare value filter and stores  
32 a destination address of the system memory data at the address register when the  
33 compared system memory data matches the designated at least a portion of the  
34 compare value filter.

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